

REMARKS

Claims 42-45 have been canceled and claims 48-50 have been added. After entry of this amendment, claims 33-41 and 46-50 will be pending in this application. Support for new claims 48 and 49 is found in original claim 1, and paragraphs [0020], [00113], and [00118]. Support for new claim 50 is found in paragraph [00113]. No new matter is added by these amendments.

Claims 33 –39 have been rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 4,292,512 by Miller et al. (hereinafter “Miller”). It is pointed out by the examiner that Miller illustrates a laser diode **100**, an optical fiber **108** and a monitor photo diode **150**.

Claim 33 has been amended to recite, more specifically, an important feature not shown or suggested in Miller. The applicant’s invention provides for the claimed photo diode to be to a side of the coupling region substantially out of a path along which light passes between the laser and the optical fiber. Miller, on the other hand, provides a monitor photo diode surrounding the path along which light propagates from the laser to the optical fiber and the monitor photo diode is between the laser and the fiber end. The applicant views Millers proposal to be a severe limitation which the instant invention overcomes because the photo monitor diode in applicant’s claimed configuration does not separate the laser from the fiber end, as does Miller’s configuration.

Dependent claim 35 recites that the laser diode has an aperture in the front facet with a fast axis and a slow axis, and the monitor photo diode is disposed to couple light from the laser diode in the fast axis. Miller does not anticipate or suggest claim 35 because the monitor photo diode does not couple light from the front facet of the laser **100**. The examiner identifies the detector **150** as a monitor photo diode; however, the undersigned believes the DH-PD **152** operates as the monitor photo diode, not the DH-PD **150**. Miller states that the fl. light beam **140** from the laser **100** passes through the hole **172** in the DH-PD structures to the fiber **108**. A small fraction **174** of the fl light

beam **140** is reflected from the end of the fiber **108** to the active layer **170**, which is part of the DH-PD **152**. Col. 7, lines 13-55 (*see also*, Feedback Circuit **120**). Hence, the f1 light beam **140** is not coupled from the front facet of the laser **100** to the monitor photo diode **152**, but only from the fiber **108**.

Miller further states that the active layer **168** would absorb f1 light (Col. 7, lines 13-17), hence the hole **172** that allows the f1 beam **140** to pass through active layer **168**. The structure of Miller precludes coupling light from the front facet of the source to the monitor photo diode **152**. Accordingly, the applicant believes claim 35 is further patentable, and that claims 36, 48, and 49 are patentable for similar reasons.

Dependent claim 38 recites a reflectance-increasing coating on the fiber end. The examiner has not indicated where this limitation is disclosed or suggested in Miller. The applicant respectfully requests reconsideration of claim 38 and withdrawal of this rejection.

Dependent claim 46 recites that the optical fiber includes a fiber Bragg grating. The examiner states that it would have been obvious to modify Miller by employing a fiber grating. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Fig. 3 of Miller shows two DH-PD structures, one **152** configured to monitor the f1 beam **140** from the laser **100** and another **150** to detect an f2 beam **178** from a remote source **200**. Miller states that f2 is not equal to f1. It is unclear how one could add a fiber grating to the fiber **108** of Miller to minimize wavelength locking range variability of the laser **100** without blocking the transmission of the f2 beam **178** to the detector. The applicant believes no suggestion or motivation to modify the reference appears in the reference and submits that the examiner has not provided a convincing line of reasoning. The applicant respectfully requests reconsideration of

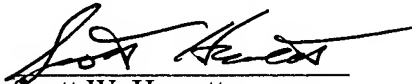
claim 46 and withdrawal of this rejection. The applicant believes claims 46 and 47 are further patentable for at least the reasons given above.

Claims 42 – 45 have been cancelled without prejudice to expedite allowance of the remaining claims.

As such, it is respectfully submitted that all of the claims remaining in the application are in condition for allowance. Early and favorable consideration would be appreciated.

Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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